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THE LOG OF THE LAB

Items of Current Research

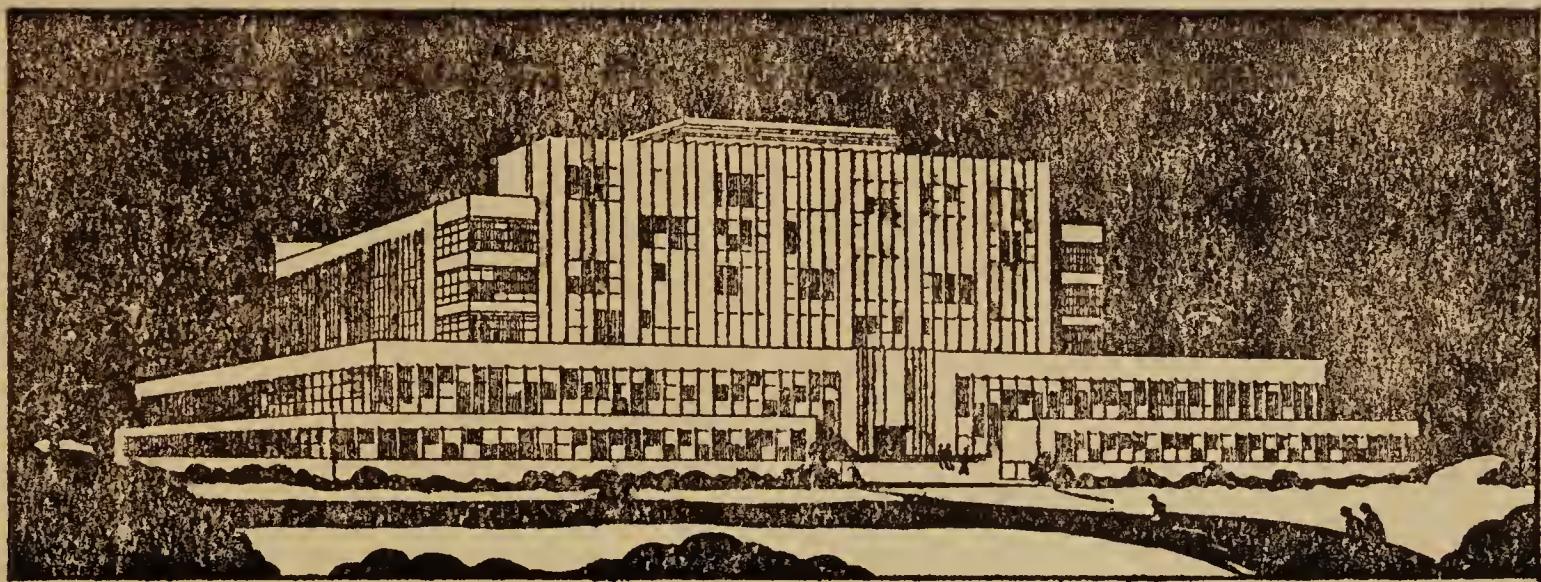
FOREST PRODUCTS LABORATORY* FOREST SERVICE
U. S. DEPARTMENT OF AGRICULTURE

Madison, Wisconsin



Release October 10, 1931

Under Way . . .



THE NEW BUILDING for the Forest Products Laboratory began changing from an idea into a reality on August 24, when a battery of steam shovels and a fleet of trucks began operations on the site. Within two days the scenery for a block around was in a state of transformation.

Excavation and fill require the handling of about 90,000 cubic yards of earth and rock. This work is now far advanced, and concreting of the north wing foundation is under way, to be followed shortly by the beginning of steel erection.

The building is to be finished

ready for occupancy within one year from August 19, the day the contract was signed.

We are glad to present, above, a sketch of the structure as it will appear completed. Holabird and Root, Chicago, are the architects, C. B. Fritz & Co., Madison, Wis., are the contractors, and Davidson and Constable, Stamford, Conn., assisted in the landscaping design. In general plan the building will be U-shaped, about 275 feet in length and over-all breadth, and will contain in its five stories and ground floor a total area of approximately 175,000 square feet. External

* Maintained at Madison, Wis., in cooperation with the University of Wisconsin

walls will be faced with Bedford limestone, while large areas of glass will be an outstanding aspect of the design.

While structurally fireproof, the building is planned to feature the use of wood to the best advantage. Interior trim, including doors, door frames, and window frames, will be predominantly of wood. Softwood trim with paint finish will be used for the ground floor and working portions of the first floor. For the second, third, fourth, and fifth floors, the trim will be a representative selection of American hardwoods.

Most of the windows will have wood sash. Worked in as part of the vast exterior window design will be a large number of vertical wood ribs or "fins" accentuating the height and adding to the modernistic architectural effect of the building as a whole.

As a future development, it is planned to install wall panels and finish flooring of different woods in different rooms, so as to display effectively the beauty and usefulness of many of our American forest species. For the present, however, shelter and adequate working space must be major objectives of the construction. Most fortunately have these objectives been embodied in an architectural design of definite artistic merit.



THE SMALL SAWMILL IS A BIG FACTOR as a source of wholesale lumber, ties, piling, and dimension stock. A recent survey by the Forest Products Laboratory showed that of approximately 4000 wholesalers of such products in the United States, nearly 1400 wholesalers buy their material wholly or in part from portable or other small mills.

Pennsylvania (both a consuming and a producing state so far as lumber is concerned) leads the country with 139 wholesalers of small-mill products. Illinois, Ohio, and New York have 99, 91, and 87, respectively, and Alabama and Missouri have about 70 each. Sixteen states have only from one to ten wholesalers dealing with small mills, but 24 states have more than 25 each.

THE MYTHOLOGY OF WOOD (Continued)

5. *THE FALLACY that wood contains considerable quantities of albumin, starch, pectin, sugars, and gums, which play an important part in determining the decay resistance and other important properties of wood.*

Analysis indicates that wood may possibly contain as much as 3 per cent starch, 1 per cent pectin, 1 per cent albumin, and 2 per cent sugar, although probably not all these quantities of the several substances are present at the same time. At any rate, however important from the botanical or biochemical point of view these constituents may be, they are of little significance so far as the properties and uses of wood are concerned.

6. THE FALLACY that sawdust has no value as fuel.

Anyone who has tried to burn sawdust on a grate designed for coal is perhaps justified in the opinion that it has little or no fuel value; but the development of the Dutch-oven type of firebox has rendered sawdust a really valuable fuel. For instance, sawdust is being used as the sole source of energy by at least one important light and power company.

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NEW LABORATORY PUBLICATIONS

1. U. S. D. A. Technical Bulletin No. 248, Wood-Liquid Relations. A publication summarizing present knowledge of the physical state and the manner of movement of liquids in wood--information essential to scientific study of nearly all of the properties of wood and to the solution of many practical problems in its seasoning, impregnation with preservatives, etc.

2 Effect of Extractives on the Strength of Wood, Journal of Agricultural Research, Volume 42, No. 12, June 15, 1931. A report of studies of redwood, western red cedar, and black locust that indicate that the strength of these species is increased by the presence of their characteristic extractives.

3. U. S. D. A. Leaflet No. 77, Bracing Farm Buildings (prepared in cooperation with the Bureau of Agricultural Engineering). Simple methods of correcting or preventing construction faults that cause sheds, barns, silos, etc., to sag or collapse in service.

Copies of these publications will be sent by the Laboratory on request.

STADIUM SEATING STUDIED

Stadiums and grandstands, even when built of concrete or steel, utilize millions of board feet of wood in the aggregate for their one essential purpose, seating. In a single large stadium 250,000 feet or more of seat planking may be used. From the least high school or village baseball stand to the latest monster football bowl or prize-fight arena, the sports follower is as a rule given a seat on a wood surface.

To supply technical data on this important use of wood, the Forest Products Laboratory recently conducted a survey of 70 stadiums and grandstands belonging to universities, colleges, municipalities, and other groups.

Douglas fir, redwood, and southern cypress were in service as seating in about three-fourths of these structures, Douglas fir having the individual lead among species. Other woods reported were southern and western yellow pines, eastern spruce, oak, chestnut, western larch, eastern fir, and pine not otherwise identified.

On the basis of its conclusions from the survey, the Laboratory will be glad to advise with any who are faced with the problem of installing stadium, grandstand, or bleacher seating that will give maximum service for the money invested.

FALL SHORT COURSES

This September, after an interval of more than two years, instructional and demonstration courses in the KILN DRYING OF WOOD and the GLUING OF WOOD were resumed at the Forest Products Laboratory, and a course in BOXING AND CRATING was given for the second time within the year. Thirteen industrial concerns and the U. S. Army and Navy sent representatives.

The boxing and crating course ran from September 21 to 26. Those in attendance and their connections were as follows: Thomas B. Waddell, Deering Box Co., Chicago, Ill.; J. G. Kurtz, L. S. Treen, and J. E. Wilske, Owens-Illinois Glass Co., Toledo, Ohio; C. D. Bohannon, Fairfield, Ohio, and L. M. Hill, San Antonio, Tex., U. S. Army Air Corps; Lieut. Chas. F. House, U. S. Naval Training Station, Great Lakes, Ill.; L. L. Somerville, Weyerhaeuser Sales Co., St. Paul, Minn.

Enrollments in the course in the gluing of wood, which ran at the same time as the boxing and crating course, were as follows: Geo. Bryant, Huttig Mfg. Co., Muscatine, Iowa; Chas. Hazer and Homer Wilson, Keystone Glue Co., Williamsport, Pa.; J. H. Dea, Masonite Corp., Laurel, Miss.; R. Sorenson, Red River Lumber Co., Westwood, Calif.

The course in the kiln drying of lumber, in session from September 28 to October 9, had an enrollment as follows: Tryon H. Ferguson, American Fork & Hoe Co., Cleveland, Ohio; Lloyd Abair, Conner Land & Lumber Co., Laona, Wis.; W. B. Martin, Cummer Cypress Co., Lacoochee, Fla.;

Stanley McCord, Hyde Park Lumber Co., Cincinnati, Ohio; Michael Healey, Keenan Bros., Ltd., Owen Sound, Ont., Canada; W. R. Smith, Seidman & Seidman, Grand Rapids, Mich.



QUESTIONS THE LABORATORY IS ASKED

Q. Will a fence post give better service if it is set in the ground "up-side down"?

A. A tradition seems to exist in some quarters that setting posts bottom end up (opposite the position of growth) makes them last longer. There is neither evidence nor theoretical basis to support this idea, so far as we are aware. On the contrary we should expect posts so reversed to rot more quickly than if set upright. They would have less material at the ground line for fungus to rot through, and a greater proportion of that material would be sapwood, which is generally an easy prey to fungus. Furthermore, the less wood a post has at the ground line the weaker it is, like a fishing pole grasped at the small end.

Q. If a first coat of paint is put on a house this fall, is it a good idea to wait till next spring to put on the next coat?

A. No; so-called "seasoning" improves neither the permanence nor the beauty of a coat of paint. Tests show that the service life of paints is shortened materially by waiting too long between coats. Two days of good drying weather is amply sufficient.